

Claims

What is claimed is:

- 5 1. A compound for cancer cell selective chemotherapy comprising:
 a polyion polymer formed in a line from hundreds of units with different amounts of
 plus and minus radicals, which polyion polymer takes a globular closed form in a neutral
 and low alkaline solution and which polyion polymer takes an open line form in an acid
 environment;
- 10 10 a chemotherapeutic drug combined with the polyion polymer so that the
 chemotherapeutic drug is retained in an inactive form within the the polyion polymer in
 the globular closed form and the chemotherapeutic drug is released in a free active form
 from the polyion polymer in the open line form;
- 15 15 a glucose solution combined with the polyion polymer, the glucose solution and
 polyion polymer capable of being infused into a body containing cancer cells, which
 produce an acid environment when exposed to glucose, so that the polyion polymer
 maintains a globular closed form in a neutral and low alkaline environment of normal
 cells retaining the chemotherapeutic drug in an inactive form in the normal cells and the
 polyion polymer transforms into the open line form in a glucose induced acid
- 20 20 environment of the cancer cells releasing the chemotherapeutic drug in a free active form
 in the cancer cells thereby selectively attacking the cancer cells.

2. The compound of claim 1 wherein the glucose solution is capable of producing a pH of 6.0 to 4.0 in cancer cells.

3. The compound of claim 1 wherein the hundreds of units with different amounts of plus and minus radicals comprises polydextrose.

4. The compound of claim 1 wherein the chemotherapeutic drug comprises nitroso-methyl-urea.

5. A method for cancer cell selective chemotherapy comprising:

10 a first step of forming a polyion polymer in a line from hundreds of units with different amounts of plus and minus radicals, which polyion polymer takes a globular closed form in a neutral and low alkaline solution and which polyion polymer takes an open line form in an acid environment;

15 a second step of combining a chemotherapeutic drug with the polyion polymer so that the chemotherapeutic drug is retained in an inactive form within the polyion polymer in the globular closed form and the chemotherapeutic drug is released in a free active form from the polyion polymer in the open line form;

20 a third step of combining a glucose solution with the polyion polymer and infusing the glucose solution and polyion polymer into a body containing cancer cells, which produce an acid environment when exposed to glucose, so that the polyion polymer maintains a globular closed form in a neutral and low alkaline environment of normal

cells retaining the chemotherapeutic drug in an inactive form in the normal cells and the polyion polymer transforms into the open line form in a glucose induced acid environment of the cancer cells releasing the chemotherapeutic drug in a free active form in the cancer cells thereby selectively attacking the cancer cells.

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6. The method of claim 5 wherein the glucose solution is capable of producing a pH of 6.0 to 4.0 in cancer cells.

7. The method of claim 5 wherein the hundreds of units with different amounts of 10 plus and minus radicals comprises polydextrose.

8. The method of claim 5 wherein the chemotherapeutic drug comprises nitroso-metyl-urea.